CLAIMS

add B6

1. Membrane pump (1) having a membrane (24) which can be actuated by a crank drive (32), which membrane bounds, together with a concave pump body surface (8), a pump chamber (38), an inlet channel (4) and an outlet channel (17) which open out at an inlet opening (9) and an outlet opening (20) in the pump body surface (8), the membrane (24) having a membrane core (25) and an elastically deformable membrane ring (26) and the membrane core (26) having a convex surface adapted to the pump body surface (8),
whereby
the inlet opening (9) is arranged in a region of the pump body surface (8) which the membrane (24) first approaches upon an expulsion stroke of the crank drive (32),
and
the elastically deformable membrane ring (26) closes the inlet opening (9) before the attainment of top dead center of the crank drive (32),
characterized in that,
an inlet valve is provided which is arranged in the region of the inlet opening (9) of the inlet channel (4).

2. Membrane pump according to claim 1,
characterized in that,
the inlet valve has a valve plate (10) which covers over the inlet opening (9).

3. Membrane pump according to claim 1 or 2,
characterized in that,
there is formed in the edge region of the inlet opening (9) a surrounding control edge (35) against which the elastically deformable membrane ring (26) closes the inlet valve.

4. Membrane pump according to any of claims 1 to 3, characterized in that,
the middle point of the inlet opening (9) lies at least approximately in the plane of rotation of the crank (31) of the crank drive (32).

5. Membrane pump according to any of claims 1 or 4, characterized in that,
the elastically deformable membrane ring (26) closes the inlet opening (9) at a crank rotary position of the crank drive (32) which is up to 90° before top dead center.

6. Membrane pump according to claim 5, characterized in that,
the elastically deformable membrane ring (26) closes the inlet opening (9) at a crank rotary position of the crank drive (32) which is 20° to 90° before top dead center.

7. Membrane pump according to any of claims 1 to 6, characterized in that,
the middle axis of the inlet channel (4) is orientated perpendicularly to the pump body surface (8).

8. Membrane pump according to any of claims 1 to 7, characterized in that,
the outlet opening (20) of the outlet channel (17) is arranged in a region of the pump body surface (8) which the membrane (24) approaches last and which is attained by the membrane (24) at the earliest at top dead center of the crank drive (32).

9. Membrane pump according to any of claims 1 to 8, characterized in that,
the middle point of the outlet opening (20) of the

outlet channel (17) is arranged in an inner region of the pump body surface (8) which lies opposite to the membrane core (25) of the membrane (24).

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